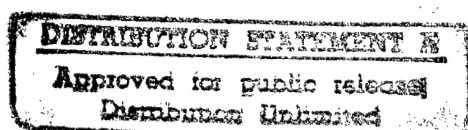# I-DEAS Drafting Level VI

Using Structural Dynamics Research Corporation

MIL-D-28000A (IGES)

Quick Short Test Report

17 December 1992

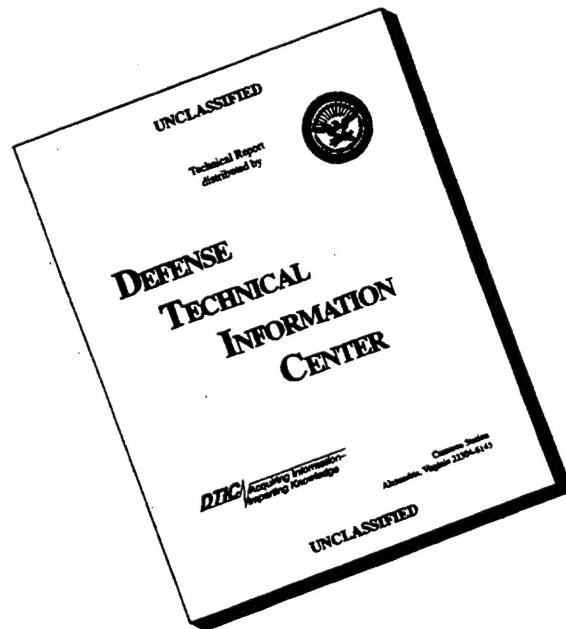Prepared for

Air Force Materiel Command

DISCLAIMER NOTICE

UNCLASSIFIED

Technical Report
distributed by

DEFENSE
TECHNICAL
INFORMATION
CENTER

DTIC Acquiring Information-
Imparting Knowledge

Cameron Station
Alexandria, Virginia 22304-6145

UNCLASSIFIED

THIS DOCUMENT IS BEST
QUALITY AVAILABLE. THE
COPY FURNISHED TO DTIC
CONTAINED A SIGNIFICANT
NUMBER OF PAGES WHICH DO
NOT REPRODUCE LEGIBLY.

CTN Test Report
92-019   AFTB-ID-92-08

Engineering Drawing Transfer

Using Strutural Dynamics Research Corporation

MIL-D-28000 (IGES)

Quick Short Test Report

17 December 1992

Prepared By
Air Force CALS Test Bed
Wright-Patterson AFB, OH 45433

AFTB Contact
Gary Lammers
(513) 257-3085

CTN Contact
Mel Lammers
(513) 257-3085

DISCLAIMER

This document was prepared as an account of work sponsored by the Air Force. Neither the United States Government or the Air Force nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial products, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or the Air Force. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or the Air Force, and shall not be used for advertising or product endorsement purposes.

<div align="center">

Available to the public from the
National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Rd.,
Springfield, VA 22161

</div>

This report and those involved in its preparation do not endorse any product, process, or company stated herein. Use of these means by anyone does not imply certification by the CALS Test Network (CTN).

Contents

---

1. Introduction

1.1 Background

The DoD Computer-aided Acquisition and Logistics Support (CALS) Test Network (CTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The CTN is a DoD-sponsored confederation of voluntary participants from industry and government managed by the Air Force Materiel Command.

The primary objective of the CTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards, formal and informal. Formal tests are large, comprehensive tests that follow a written test plan, require specific authorization from DoD, and may take months to prepare, execute, and report.

Informal tests are used by the CTN technical staff to broaden the testing base by including representative samples of the many systems and applications used by CTN participants. They also allow the CTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and to respond, in a timely manner, to the many requests for help that come from participants. Participants take part voluntarily and are benefited by receiving an evaluation of their latest implementation (interpretation) of the standards, interacting with the CTN technical staff, gaining experience in use of the standards, and developing increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test reported in this QSTR was to analyze Structural Dynamics Research Corporation's (SDRC) interpretation and use of the CALS standards in transferring engineering drawings meeting CALS MIL-D-28000 Class II Standards. SDRC used its CALS Technical Data Interchange System to produce data in accordance with the standards and delivered it to the CTN technical staff on a 9-track magnetic tape.

---

2. Test Parameters

Test Plan: AFTB 92-08

Date of
Evaluation: 30 January 1992
                                  12 February 1992

Evaluator: George Elwood
                                  HQ AFMC/ENCT
                                  4027 Colonel Glenn Hwy
                                  Suite 200
                                  Dayton OH 45431-1601

Originator: Kathleen Louie
                                  SDRC
                                  2000 Eastman Drive
                                  Milford, OH 45150-2789

Data
Description: Technical Manual Test
                                  1 document declaration file
                                  2 IGES files

Data Source System:

           IGES

                   HARDWARE
                        Unknown
                   SOFTWARE
                        SDRC I-DEAS Drafting Level VI

Evaluation
Tools Used:

        MIL-STD-1840A (TAPE)
                SUN 3/280
                        CTN Tapetools (v1.2.8)   UNIX
                        Agfa Compugraphics CALS v40.4
                Cheetah Gold 486
                        USLynx 1840A Tape Handler
                        CTN Tapetools (v1.2.8) DOS

        MIL-D-28000 (IGES)
                SUN 3/60
                        Rosetta Technology Preview V3.1
                        IDA IGES Parser\Verify
                        IDA IGESView V2.0
                SUN Sparc IPC

ITI IGES\Works 1.0
CheetahGold 486
AutoCAD 386 R11
CADKEYV4.0
MES CheckMark 1.0

**Standards
Tested:**

MIL-STD-1840A
MIL-D-28000

3. 1840A Analysis

3.1 External Packaging

The first tape arrived at the Air Force Test Bed enclosed in a
box IAW ASTM D 3951. The exterior of the box was not marked with
the required magnetic tape warning label, MIL-STD-1840A, para.
5.3.1.3.

The tape was not enclosed in a barrier bag or barrier sheet
material as required by MIL-STD-1840A, para. 5.3.1.2. Inspection
of the tape reel showed the required label indicating the re-
cording density as required by MIL-STD-1840A, para. 5.3.1. En-
closed in the box was a packing list showing all files that were
recorded on the tape.

The second tape was received in the same condition.

3.2 Transmission Envelope

The first 9-track tape received by the Air Force Test Bed con-
tained MIL-STD-1840A files. The files were not named per MIL-
STD-1840A and therefore the tape does not meet standards.

Based on comments provided to SDRC, another tape was generated
and sent to the AFTB. This tape again did not have correct file
names as defined by MIL-STD-1840A. The names were closer to
being correct but still did not meet the standards. The files on
the tape were named D001Q001.IGS and D002Q001.IGS.

3.2.1 Tape Formats

The first 1840A Tape was run through the AFTB TAPETOOL utility
version 1.2.8. One note was encountered while evaluating the
contents of the tape labels. A note was reported on the tape
label version. MIL-STD-1840A permits the use of both ver-
sions three and four. The use of the most current standard
should be used and noted.

Ten errors were reported because of the incorrect naming of the
files on the tape. Because the files were misnamed, they were
deleted from the system. None of the other tape reading utili-
ties would read the tape.

The second tape contained the same error as the first on the label version. The tape contained 10 errors because of the misnamed files. Tapetools was looking for the Document Declaration File which was not present. The misnamed IGES files reported errors due to the punctuation character encountered. The entire log file is included in Appendix B in this report.

3.2.2 Declaration and Header Fields

Due to incorrect naming conventions, nothing could be evaluated on this tape.

On the second tape this file was missing. No header records were included on the IGES files.

4. IGES Analysis

Nothing could be read off the first tape.

The second tape had two IGES files which could be read. The files were constructed on an SDRC CAD system using the CTN Class II IGES package. File D001Q001.IGS was the N-Entity set and file D002Q001.IGS was the L Bracket.

4.1 D001Q001

When the IDA Parser was run on this file several errors were reported, both in the basic IGES file and against the CALS Standards. The first errors reported were in the global section. Several blocks were not filled which is required in MIL-D-28000. Some of these errors are shown below and the entire log is shown in the appendix to this report.

```
 *  File name from sender    = ''
ERROR   3005: CALS Class II does not allow file name to be defaulted.
    File creation Date.Time  = '911218.084807'
 *  Model change Date.Time   = ''
    Author                   = 'Kathy Louie'
 *  Department               = ''
ERROR   3004: CALS Class II does not allow department to be defaulted.
 *  Product name from sender = ''
ERROR   3013: CALS Class II does not allow product name from sender to be defaulted.
```

```
  *  Granularity              =   0.000000E+000
ERROR   3006: CALS Class II does not allow granularity to be defaulted.
CAUTION 1083: Minimum intended resolution is to be absolute.
  *  Maximum coordinate       =   0.000000E+000
ERROR   3008: CALS Class II does not allow maximum coordinate to be defaulted.
CAUTION 1080: Maximum coordinate value in data is to be zero.
```

Drafting standard applicable to original data is not specified.

*** Message Summary ***

```
1019: 2 Invalid Global parameters.
1020: 489 Status fields not one number.
3001: 5 Illegally defaulted global values.
```

*** Error Summary ***

```
    0 fatal errors
    0 severe errors
    5 errors
  489 warnings
    2 cautions
    0 nitpicks
    0 notes
```


The file was then run through the IDA verifier. This program
reported CALS Class II errors in entities 220, 402, 404, and 406.
The entire verify log file is included in the appendix to this
report.

When the file was converted and displayed using Preview, it was
noted that all of the text associated with the file was not in-
cluded. It was also noted that the 3-D entities did not appear
in 3-D. Many of the wire frame models were represented as two
line defining parts of the image. The same results were noted in
the other CAD programs available in the AFTB. Hard copies of the
outputs are included in the appendix to this report. Also in-
cluded in the Preview output from the standard CTN Class II IGES
file. The documentation that came with the file indicated that
the creation software does not support 3-D presentation. None of
the CAD systems in the AFTB displayed the entity text. Checking
the IGES file showed that the entity text was not included in the
file.

4.2 D002Q001

This file is the L Bracket from the CTN Standard Class II IGES reference set. Many of the same errors reported on file D001Q001 were reported in this file. A complete listing of the Parser and Verify logs are included in the appendix to this report.

The file was converted, displayed and output from the available CAD systems in the AFTB. The results of these procedures are included in the appendix to this report.

5. SGML Analysis

No SGML files were included on the tape.

6. Raster Analysis

No raster files were included on the tape.

7. CGM Analysis

No CGM files were included on the tape.

8. Conclusions and Recommendations

In summary, the MIL-STD-1840A the first tape from SDRC was not correct. The tape did not meet MIL-STD-1840A Standards and therefore was unacceptable.

The second tape from SDRC was closer to CALS Standards but still did not meet MIL-STD-1840A. The IGES files were recovered from the tape and evaluated. Many errors were reported during this process. The second tape did not meet current CALS Standards in both MIL-STD-1840A and MIL-D-28000.

9. SDRC Comments

SDRC

Structural Dynamics Research Corporation

2000 Eastman Drive
Milford, OH 45150-2789
Tel. 513-576-2400

SDRC Follow-up Comments on CALS Test Network QSTR

The Cals Test Network office (CTN) tested I-DEAS Level VI Drafting tapes against MIL-STD-1840A and MIL-STD-28000. The following is a summary of the QSTR (Quick-Short-Test-Report) findings and explanations of noncompliance.

MIL-STD-1840A "Automated Interchange of Technical Data" basically specifies the logistics of preparing and delivering a data tape. All noncompliances to this standard were the result of SDRC tape preparation error. SDRC did not use "MIL-STD" packing materials, we failed to include a "Document Declaration File" on one tape, and we failed to follow MIL-STD-1840 naming conventions for the files on both tapes by using a filename extension of ".IGES". These problems are documented in Appendix A of the QSTR, sections 10.1 and 10.2 for the first SDRC tape, and sections 11.1 and 11.2 for the second SDRC tape. We must stress that every one of these problems represents operator error and in no way reflects an inability of IDEAS VI Drafting to meet CALS requirements.

MIL-STD-28000 "Digital Representation for Communication of Product Data: IGES Application Subsets and IGES Application Protocols" specifies the subset of the IGES specification that CALS supports. CTN uses a commercially available tool, the "IGES Data Analysis - IGES Parser / Verifier" to test for compliance with this standard. Five MIL-STD-28000 noncompliances are reported by the "Parser/Verifier". These are documented in sections 12.1.1 and 12.1.2 of the QSTR.

• Errors reported in 12.1.1 are caused by Drafting defaulting to a blank entry for five fields in the IGES file global section. This problem is addressed in IDEAS VI.i wherein Drafting will default to a nominal, non-blank default value for these fields. IDEAS VI users could easily avoid this problem by using the Drafting option to import a Global Section from an external file, or type in appropriate information when prompted.

There are four MIL-STD-28000 noncompliances reported in section 12.1.2:
• The two "ERROR 4042" are actually not errors, but are allowable exceptions according to Paragraph 3.1.1.e of MIL-STD-28000.
• The third error in this section, "ERROR 4024", which reports that IGES Entity 220 (point dimension leader) is not Form 4, will be corrected in a future release..
• The final error, "ERROR 4010", which reports that IGES Entity 404 does not contain a pointer to a drawing units property, is not scheduled to be addressed.

Both of these last two errors are minor and would only impact a system which could read only the CALS subset of IGES. No commercially available system exists which has this unnecessary restriction.

---

10. Appendix A - Tape Tool Report Logs

10.1 Tape Catalog

CALS Test Network Catalog Evaluation - Version 1.2; Release Number 8

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    MIL-R-28003 (1988) - Digital Representation For Communication Of
                          Illustration Data; CGM Application Profile
    ANSI X3.27 (1987) - File Structure and Labelling of Magnetic Tapes
                      for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Thu Jan 30 10:43:00 1992

MIL-STD-1840A File Catalog

File Set Directory: /cals/tapetool8/Set053

Page: 1

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
LBRACKET.IGES	CGM	D/00084	02000/000046	Extracted

*** ERROR (MIL-STD-1840A; 5.1.1.1,5.1.3) - 'LBRACKET.IGES' does not
    begin with 'D'.
*** ERROR (MIL-STD-1840A; 5.1.1.1,5.1.3) - File name contains
    a punctuation character.
*** ERROR (MIL-STD-1840A; 5.1.1.1,5.1.3) - 'LBRACKET.IGES' does not
    have a Document number
*** ERROR (MIL-STD-1840A; 5.1.3) - 'LBRACKET.IGES' does not
    have a file number.
*** NOTE - 'LBRACKET.IGES' could not be used in the evaluation.
Removing file => /cals/tapetool8/Set053/LBRACKET.IGES

| NENTITY.IGES | Unknown | D/00084 | 02000/000078 | Extracted |

*** ERROR (MIL-STD-1840A; 5.1.1.1,5.1.3) - 'NENTITY.IGES' does not
    begin with 'D'.
*** ERROR (MIL-STD-1840A; 5.1.1.1,5.1.3) - File name contains
    a punctuation character.
*** ERROR (MIL-STD-1840A; 5.1.1.1,5.1.3) - 'NENTITY.IGES' does not
    have a Document number
*** ERROR (MIL-STD-1840A; 5.1.3) - 'NENTITY.IGES' does not
    have a file number.
*** ERROR (MIL-STD-1840A; 5.1.3) - 'NENTITY.IGES' does not
    have a valid file type

*** NOTE - 'NENTITY.IGES' could not be used in the evaluation.
Removing file => /cals/tapetool8/Set053/NENTITY.IGES

*** ERROR - The File Set contains no MIL-STD-1840A Files.

Catalog Process terminated with 10 error(s), 0 warning(s), and 2 note(s).

10.2 Tape Evaluation Log

CALS Test Network Tape Evaluation - Version 1.2; Release Number 8
  Standards referenced:
    ANSI X3.27 (1987) - File Structure and Labelling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Thu Jan 30 10:42:52 1992

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1SDRC91   3

  Label Identifier: VOL1
  Volume Identifier: SDRC91
  Volume Accessibility:
  Owner Identifier:
  Label Standard Version: 3

*** ERROR (ANSI X3.27; 8.3.1.8) - The Label Standard Version
    should be 4 to represent the current level of ANSI X3.27.

HDR1LBRACKET.IGES   SDRC9100010001000100 91352 00000 000000DECFILE11A

  Label Identifier: HDR1
  File Identifier: LBRACKET.IGES
  File Set Identifier: SDRC91
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date: 91352
  Expiration Date: 00000
  File Accessibility:
  Block Count: 000000
  Implementation Identifier: DECFILE11A

HDR2D0200000084   00

  Label Identifier: HDR2
  Recording Format: D
  Block Length: 02000
  Record Length: 00084

Offset Length: 00

HDR3005002020000000000001000000000000000000000000000000000000000000000

HDR4   00

************ Tape Mark ***************

  Actual Block Size Found = 2000 Bytes.

  Number of data blocks read = 46.

************ Tape Mark ***************

EOF1LBRACKET.IGES   SDRC9100010001000100 91352 00000 000046DECFILE11A

  Label Identifier: EOF1
  File Identifier: LBRACKET.IGES
  File Set Identifier: SDRC91
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date: 91352
  Expiration Date: 00000
  File Accessibility:
  Block Count: 000046
  Implementation Identifier: DECFILE11A

EOF2D0200000084   00

  Label Identifier: EOF2
  Recording Format: D
  Block Length: 02000
  Record Length: 00084
  Offset Length: 00

EOF3005002020000000000001000000000000000000000000000000000000000000000

EOF4   00

************ Tape Mark ***************

HDR1NENTITY.IGES   SDRC9100010002000101 91352 00000 000000DECFILE11A

  Label Identifier: HDR1
  File Identifier: NENTITY.IGES
  File Set Identifier: SDRC91
  File Section Number: 0001

File Sequence Number: 0002
Generation Number: 0001
Generation Version Number: 01
Creation Date: 91352
Expiration Date: 00000
File Accessibility:
Block Count: 000000
Implementation Identifier: DECFILE11A

HDR2D0200000084   00

Label Identifier: HDR2
Recording Format: D
Block Length: 02000
Record Length: 00084
Offset Length: 00

HDR300500020200000000000010000000000000000000000000000000000000000000000000

HDR4   00

************ Tape Mark ***************

Actual Block Size Found = 2000 Bytes.

Number of data blocks read = 78.

************ Tape Mark ***************

EOF1NENTITY.IGES   SDRC9100010002000101 91352 00000 000078DECFILE11A

Label Identifier: EOF1
File Identifier: NENTITY.IGES
File Set Identifier: SDRC91
File Section Number: 0001
File Sequence Number: 0002
Generation Number: 0001
Generation Version Number: 01
Creation Date: 91352
Expiration Date: 00000
File Accessibility:
Block Count: 000078
Implementation Identifier: DECFILE11A

EOF2D0200000084   00

Label Identifier: EOF2
Recording Format: D
Block Length: 02000

Record Length: 00084
Offset Length: 00

EOF3005002020000000000001000000000000000000000000000000000000000000000000

EOF4   00

************ Tape Mark ***************

************ Tape Mark ***************

############ End of Volume SDRC91 #############

############ End Of Tape File Set #############

Deallocating /dev/rmt0...

Tape Import Process terminated with 1 error(s), 0 warning(s),
and 0 note(s).

11.   Appendix B - Tape Two Tapetool Report Logs

11.1   Tape Catalog

CALS Test Network Catalog Evaluation - Version 1.2; Release Number 8

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    MIL-R-28003 (1988) - Digital Representation For Communication Of
                         Illustration Data; CGM Application Profile
    ANSI X3.27 (1987) - File Structure and Labelling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Mon Feb 10 15:47:15 1992

MIL-STD-1840A File Catalog

File Set Directory: /cals/tapetool8/Set056

                                                                 Page: 1

```
                                          Record
                                          Format/    Block      Selected/
File Name               File Type         Length  Length/Total  Extracted
-----------------------------------------------------------------------------
D001Q001.IGES           IGES              D/00084 02000/000080  Extracted
*** ERROR (MIL-STD-1840A; 5.1.1.1,5.1.3) - File name contains
    a punctuation character.
Renaming file from => /cals/tapetool8/Set056/D001Q001.IGES
            to => /cals/tapetool8/Set056/D001Q001
*** ERROR (MIL-STD-1840A; 5.1) - Unexpected IGES
    File encountered.
*** NOTE - Document Declaration Files should precede all other files.
*** ERROR (MIL-STD-1840A; 5.2.1.5) - Invalid Recording Format:
    Header => D, Expected => F
*** ERROR (MIL-STD-1840A; 5.2.1.5) - Invalid fixed record size encountered.
    Header => 84, Expected => 80
D002Q001.IGES           IGES              D/00084 02000/000047  Extracted
*** ERROR (MIL-STD-1840A; 5.1.1.1,5.1.3) - File name contains
    a punctuation character.
Renaming file from => /cals/tapetool8/Set056/D002Q001.IGES
            to => /cals/tapetool8/Set056/D002Q001
*** ERROR (MIL-STD-1840A; 5.1) - Unexpected IGES
    File encountered.
*** NOTE - Document Declaration Files should precede all other files.
*** ERROR (MIL-STD-1840A; 5.2.1.5) - Invalid Recording Format:
    Header => D, Expected => F
*** ERROR (MIL-STD-1840A; 5.2.1.5) - Invalid fixed record size encountered.
    Header => 84, Expected => 80
```

*** ERROR (MIL-STD-1840A; 5.1) - Document Declaration file D001 missing.
*** NOTE - Document Declaration files should precede all other files.
*** ERROR (MIL-STD-1840A; 5.1) - Document Declaration file D002 missing.
*** NOTE - Document Declaration files should precede all other files.

Catalog Process terminated with 10 error(s), 0 warning(s), and 4 note(s).

11.2 Tape Evaluation Log

CALS Test Network Tape Evaluation - Version 1.2; Release Number 8
  Standards referenced:
    ANSI X3.27 (1987) - File Structure and Labelling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Mon Feb 10 15:47:06 1992

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1SDRC01   3

  Label Identifier: VOL1
  Volume Identifier: SDRC01
  Volume Accessibility:
  Owner Identifier:
  Label Standard Version: 3

*** ERROR (ANSI X3.27; 8.3.1.8) - The Label Standard Version
    should be 4 to represent the current level of ANSI X3.27.

HDR1D001Q001.IGES   SDRC0100010001000100 92035 00000 000000DECFILE11A

  Label Identifier: HDR1
  File Identifier: D001Q001.IGES
  File Set Identifier: SDRC01
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date: 92035
  Expiration Date: 00000
  File Accessibility:
  Block Count: 000000
  Implementation Identifier: DECFILE11A

HDR2D0200000084   00

  Label Identifier: HDR2
  Recording Format: D
  Block Length: 02000
  Record Length: 00084

Offset Length: 00

HDR300500202000000000001000000000000000000FF0000000000000000000000000

HDR4   00

*********** Tape Mark **************

  Actual Block Size Found = 2000 Bytes.

  Number of data blocks read = 80.

*********** Tape Mark **************

EOF1D001Q001.IGES   SDRC0100010001000100 92035 00000 000080DECFILE11A

    Label Identifier: EOF1
    File Identifier: D001Q001.IGES
    File Set Identifier: SDRC01
    File Section Number: 0001
    File Sequence Number: 0001
    Generation Number: 0001
    Generation Version Number: 00
    Creation Date: 92035
    Expiration Date: 00000
    File Accessibility:
    Block Count: 000080
    Implementation Identifier: DECFILE11A

EOF2D0200000084   00

    Label Identifier: EOF2
    Recording Format: D
    Block Length: 02000
    Record Length: 00084
    Offset Length: 00

EOF300500202000000000001000000000000000000FF0000000000000000000000000

EOF4   00

*********** Tape Mark **************

HDR1D002Q001.IGES   SDRC0100010002000100 92035 00000 000000DECFILE11A

    Label Identifier: HDR1
    File Identifier: D002Q001.IGES
    File Set Identifier: SDRC01
    File Section Number: 0001

18

File Sequence Number: 0002
Generation Number: 0001
Generation Version Number: 00
Creation Date: 92035
Expiration Date: 00000
File Accessibility:
Block Count: 000000
Implementation Identifier: DECFILE11A

HDR2D0200000084   00

  Label Identifier: HDR2
  Recording Format: D
  Block Length: 02000
  Record Length: 00084
  Offset Length: 00

HDR300500020200000000000001000000000000000000000FF000000000000000000000000000

HDR4   00

************ Tape Mark ***************

  Actual Block Size Found = 2000 Bytes.

  Number of data blocks read = 47.

************ Tape Mark ***************

EOF1D002Q001.IGES   SDRC0100010002000100 92035 00000 000047DECFILE11A

  Label Identifier: EOF1
  File Identifier: D002Q001.IGES
  File Set Identifier: SDRC01
  File Section Number: 0001
  File Sequence Number: 0002
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date: 92035
  Expiration Date: 00000
  File Accessibility:
  Block Count: 000047
  Implementation Identifier: DECFILE11A

EOF2D0200000084   00

  Label Identifier: EOF2
  Recording Format: D
  Block Length: 02000

Record Length: 00084
Offset Length: 00

EOF3005002020000000000001000000000000000000FF0000000000000000000000000

EOF4   00

*********** Tape Mark **************

*********** Tape Mark **************

############ End of Volume SDRC01 #############

############ End Of Tape File Set #############

Deallocating /dev/rmt0...

Tape Import Process terminated with 1 error(s), 0 warning(s),
and 0 note(s).

12. IGES Log

12.1 D001Q001

12.1.1 Parser Log

```
        *** IGES DATA FILE PARSING ***
        ***         AUGUST 1991      ***
        ***    IGES Data Analysis    ***
        ***        (708) 449-3430    ***

  Input file is \9208\d001q001

  Checking conformance to CALS Class II

  Today is February 13, 1992  10:51 AM


 *** Count of Records Per Section in Data File ***


        Section          Records

        Start             31
        Global             3
        Directory        978  (    489 Entities)
        Parameter        807
        Terminate          1



  *** Start Section From Input File:
```

			S	1
			S	2
CONFORMANCE:	This IGES file conforms to the MIL-D-28000 Amendment 1		S	3
	Class II subset (Engineering Drawings).		S	4
			S	5
CREATED BY:	Kathy Louie		S	6
	SDRC		S	7
	2000 Eastman Drive		S	8
	Milford, Ohio 45150		S	9
	(513) 576-2893		S	10
			S	11
DATE:	December 18, 1991		S	12
			S	13
PART NAME:	NENTITY		S	14
			S	15
DRAWING NAME:	NENTITY		S	16
			S	17
DESCRIPTION:	This drawing is a replica of the NENTITY drawing provided	S	18

```
                  as part of the CTN Pre-Processing test suite.  It was     S     19
                  generated using the I-DEAS Drafting, Level VI software.    S     20
                                                                            S     21
DRAWING SIZE                                                                S     22
 AND NUMBER:  One C-Size drawing                                            S     23
                                                                            S     24
PART LEVEL SCHEME:                                                          S     25
                                                                            S     26
       LEVEL          COLOR       ENTITY DESCRIPTION    MODE                S     27
       --------------------------------------------------------            S     28
         1            red           all entities        n/a                S     29
                                                                            S     30
                                                                            S     31
```

 *** Global Section From Input File:

```
1H,,1H;,,,24HI-DEAS DRAFTING 5.0 IGES,25HIGES STANDARD VERSION 4.0,32,  G     1
38,8,38,8,,1.0,1,4HINCH,32767,32.767,13H911218.084807,,,11HKathy Louie,,G     2
6,0;                                                                    G     3
```

 *** File and Product Name Information ***

```
 *  File name from sender    = ''
ERROR   3005: CALS Class II does not allow file name to be defaulted.
    File creation Date.Time  = '911218.084807'
 *  Model change Date.Time   = ''
    Author                   = 'Kathy Louie'
 *  Department               = ''
ERROR   3004: CALS Class II does not allow department to be defaulted.
 *  Product name from sender = ''
ERROR   3013: CALS Class II does not allow product name from sender to be defaulted.
 *  Destination product name = ''
```

 *** Parameter Delimiters ***

```
    Delimiter  = ','
    Terminator = ';'
```

 *** Originating System Data ***

```
    System ID             = 'I-DEAS DRAFTING 5.0 IGES'
    Preprocessor version  = 'IGES STANDARD VERSION 4.0'
    Specification version = 6 (IGES 4.0)
```

 *** Precision Levels ***

```
        Integer bits =      32
        Floating point   -   Exponent =       38   Mantissa =        8
        Double precision -   Exponent =       38   Mantissa =        8
```

*** Global Model Data ***

```
        Model scale             =   1.0000E+000
        Unit flag               =   1
        Units                   =   'INCH'
        Line weights            =   32767
        Maximum line thickness  =   3.276700E+001
        Minimum line thickness  =   1.000000E-003
    *   Granularity             =   0.000000E+000
```
ERROR   3006: CALS Class II does not allow granularity to be defaulted.
CAUTION 1083: Minimum intended resolution is to be absolute.
```
    *   Maximum coordinate      =   0.000000E+000
```
ERROR   3008: CALS Class II does not allow maximum coordinate to be defaulted.
CAUTION 1080: Maximum coordinate value in data is to be zero.

Drafting standard applicable to original data is not specified.

```
    **   7 defaulted Global values.
        (*) Indicates a defaulted value.
```

```
    ******************************
    *** Entity Parsing Messages ***
    ******************************
```

```
WARNING 1087: Status fields not one number at D       1.
WARNING 1087: Status fields not one number at D       3.
WARNING 1087: Status fields not one number at D       5.
WARNING 1087: Status fields not one number at D       7.
WARNING 1087: Status fields not one number at D       9.
WARNING 1087: Status fields not one number at D      11.
WARNING 1087: Status fields not one number at D      13.
WARNING 1087: Status fields not one number at D      15.
WARNING 1087: Status fields not one number at D      17.
WARNING 1087: Status fields not one number at D      19.
WARNING 1087: Messages regarding status fields suppressed.
```

```
    **    977 defaulted Parameter data values.
```

*** Message Summary ***

```
1019: 2 Invalid Global parameters.
1020: 489 Status fields not one number.
3001: 5 Illegally defaulted global values.
```

*** Error Summary ***

```
    0 fatal errors
    0 severe errors
    5 errors
  489 warnings
    2 cautions
    0 nitpicks
    0 notes
```

 *** Completed Parsing of \9208\d001q001 ***

12.1.2 Verify Log

```
        *** IGES DATA FILE ANALYSIS ***
        ***         AUGUST 1991        ***
        ***     IGES Data Analysis     ***
        ***       (708) 449-3430       ***
```

 Input file is \9208\d001q001

 Checking for conformance to CALS Class II

 Today is February 13, 1992 10:54 AM

 *** File and Product Name Information ***

```
    File name from sender   = ''
    File creation Date.Time  = '911218.084807'
    Model change Date.Time   = ''
    Author                   = 'Kathy Louie'
    Department               = ''
    Product name from sender = ''
    Destination product name = ''
```

 *** Parameter Delimiters ***

```
    Delimiter  = ','
    Terminator = ';'
```

 *** Originating System Data ***

```
    System ID            = 'I-DEAS DRAFTING 5.0 IGES'
    Preprocessor version = 'IGES STANDARD VERSION 4.0'
    Specification version = 6 (IGES 4.0)
```

 *** Precision levels ***
```
    Integer bits =    32
    Floating point  -  Exponent =    38  Mantissa =    8
    Double precision - Exponent =    38  Mantissa =    8
```

*** Global Model Data ***

```
    Model scale            =  1.0000E+000
    Unit flag              =  1
    Units                  =  'INCH'
    Line weights           =  32767
    Maximum line thickness =  3.276700E+001
    Minimum line thickness =  1.000000E-003
    Granularity            =  0.000000E+000
CAUTION 2319: Minimum intended resolution is to be absolute. Value defaulted to 1.00E-00
    Maximum coordinate     =  0.000000E+000
CAUTION 2316: Maximum coordinate value in data is to be zero.
```

    Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

```
    Blank status: Visible                    489
                  Blanked                      0

    Independence: Independent                 40
                  Physically Subordinate     437
                  Logically Subordinate        8
                  Totally Subordinate          4

    Entity use:   Geometry                    26
                  Annotation                 283
                  Definition                 180
                  Other                        0
                  Logical/Positional           0
                  2D parametric                0
                  Not Specified                0

    Hierarchy:    Structure DE applies       489
                  Subordinate DE applies       0
                  Hierarchy property applies   0
                  Not Specified                0
```

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
100	0	0	1	Circular arc
100	0	1	26	
104	0	1	2	Conic arc - general form
106	40	0	8	Witness line

108	0	0	4	Plane, Unbounded
110	0	1	222	Line
112	0	1	16	Parametric spline curve
116	0	1	12	Point
124	0	0	19	Transformation matrix
202	0	1	1	Angular dimension
206	0	1	1	Diameter dimension
210	0	1	12	General label
212	0	0	20	General note
212	0	1	55	
214	1	0	3	Leader arrow - Wedge
214	2	0	10	Leader arrow - Triangle
214	3	0	1	Leader arrow - Filled triangle
214	4	0	1	Leader arrow - No arrowhead
214	5	0	1	Leader arrow - Circle
214	6	0	2	Leader arrow - Filled circle
214	7	0	1	Leader arrow - Rectangle
214	8	0	1	Leader arrow - Filled rectangle
214	9	0	1	Leader arrow - Slash
214	10	0	1	Leader arrow - Integral sign
216	0	1	2	Linear dimension
218	0	1	2	Ordinate dimension
220	0	1	1	Point dimension
222	0	1	1	Radius dimension
304	2	0	7	Line font definition - repeating pattern
308	0	1	25	Subfigure definition
402	13	0	4	Dimensioned geometry instance
404	0	0	1	Drawing
406	15	0	1	Property - Name
406	16	0	1	Property - Drawing size
+ 406	5004	0	7	Implementor entity instance
408	0	1	15	Single subfigure instance
410	0	0	1	View - Orthographic parallel

+ Indicates use of a Implementor defined form or entity.

*** Entity Count by Level ***

Level	Count
0	96
1	393

*** Labeling Information ***

0% of the entities are labeled.

Unlabeled   489

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
-	-	-	-	4	-	-	-	Undefined
27	-	2	8	-	200	16	-	Solid
-	-	-	-	-	21	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	1	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

116	118	120	122	124	125	126	128	
-	-	-	-	19	-	-	-	Undefined
12	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

130	132	134	136	138	140	142	144	
-	-	-	-	-	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

*** Line Widths Used in Data ***

Weight	Count	Width
Defaulted	223	(0.0010)
13	266	(0.0130)

*** Colors Used in Data ***

Defaulted	121	
Red	368	

```
******************************
******  ENTITY ANALYSIS  ******
******************************
```

*** Entity type: 100

*** Entity type: 104

*** Entity type: 106

NITPICK 2076: Entity use not Annotation at D   837.
NITPICK 2076: Entity use not Annotation at D   839.
NITPICK 2076: Entity use not Annotation at D   861.
NITPICK 2076: Entity use not Annotation at D   863.
NITPICK 2076: Entity use not Annotation at D   943.
NITPICK 2076: Entity use not Annotation at D   945.
NITPICK 2076: Entity use not Annotation at D   955.
NITPICK 2076: Entity use not Annotation at D   965.

*** Entity type: 108

*** Entity type: 110

  --   222 lines averaging 2.227030E+000 units --

*** Entity type: 112

WARNING 2002: 1 discontinuities in spline curve at D   429, largest is 1.171831E-006 un

*** Entity type: 116

*** Entity type: 124

19 transformation matrices, 2 non-zero translations.
NOTE   2341: 2 matrices contain translation information.

*** Entity type: 202

*** Entity type: 206

*** Entity type: 210

*** Entity type: 212

NITPICK 2076: Entity use not Annotation at D   293.

NITPICK 2076: Entity use not Annotation at D   315.
NITPICK 2076: Messages regarding entity use (annotation) suppressed.
      75 text strings in data file.
      Average text aspect ratio in file is 0.8800000.
      Minimum text aspect ratio in file is 0.7999999.
      Maximum text aspect ratio in file is 1.0000000.

      FONTS USED IN FILE

      FONT   COUNT   NAME

        1   70   Default ASCII Style
      1002   5   Symbol Font 2

 *** Entity type: 214

       Average arrow aspect ratio in file is 3.0000000.
       Minimum arrow aspect ratio in file is 2.9999999.
       Maximum arrow aspect ratio in file is 3.0000000.

 *** Entity type: 216

 *** Entity type: 218

 *** Entity type: 220

ERROR   4024: CALS Class II requires leader to be form 4 at D   829.

 *** Entity type: 222

 *** Entity type: 304

Default line font substitute at D   15 is Solid.
Default line font substitute at D   17 is Solid.
Default line font substitute at D   19 is Solid.
Default line font substitute at D   21 is Solid.
Default line font substitute at D   23 is Solid.
Default line font substitute at D   25 is Solid.
Default line font substitute at D   27 is Solid.

 *** Entity type: 308

  Subfigure name at D   33: 'WEDGE'.
    Number of included entities = 2.
  Subfigure name at D   37: 'STANDARD'.
    Number of included entities = 1.

```
      Subfigure name at D      53: 'SOLID TRIANGLE'.
        Number of included entities = 7.
      Subfigure name at D      57: 'NONE'.
        Number of included entities = 1.
      Subfigure name at D      61: 'DOT'.
        Number of included entities = 1.
      Subfigure name at D    . 69: 'SOLID DOT'.
        Number of included entities = 3.
      Subfigure name at D      79: 'BOX'.
        Number of included entities = 4.
      Subfigure name at D     105: 'SOLID BOX'.
        Number of included entities = 12.
      Subfigure name at D     109: 'SLASH'.
        Number of included entities = 1.
      Subfigure name at D     115: 'INTEGRAL'.
        Number of included entities = 2.
      Subfigure name at D     123: 'EMPTY TRIANGLE'.
        Number of included entities = 3.
      Subfigure name at D     139: 'XH12'.
        Number of included entities = 7.
      Subfigure name at D     157: 'XH13'.
        Number of included entities = 8.
      Subfigure name at D     175: 'XH14'.
        Number of included entities = 8.
      Subfigure name at D     191: 'XH15'.
        Number of included entities = 7.
      Subfigure name at D     201: 'ARROW.SYM'.
        Number of included entities = 4.
      Subfigure name at D     217: 'XH17'.
        Number of included entities = 7.
      Subfigure name at D     247: 'XH18'.
        Number of included entities = 14.
      Subfigure name at D     281: 'XH19'.
        Number of included entities = 16.
      Subfigure name at D     295: 'GENERAL_SYM'.
        Number of included entities = 6.
      Subfigure name at D     307: 'XH21'.
        Number of included entities = 5.
      Subfigure name at D     317: 'DATUM_TARGET'.
        Number of included entities = 4.
      Subfigure name at D     329: 'GT23'.
        Number of included entities = 5.
      Subfigure name at D     347: 'GT24'.
        Number of included entities = 8.
      Subfigure name at D     365: 'XH25'.
        Number of included entities = 8.

  *** Entity type: 402
```

```
ERROR    4042: Illegal form for CALS Class II specified at D    865.
ERROR    4042: Illegal form for CALS Class II specified at D    947.
ERROR    4042: Illegal form for CALS Class II specified at D    957.
ERROR    4042: Illegal form for CALS Class II specified at D    967.
```

   *** Entity type: 404

```
Drawing at D    977 contains 1 views.
Drawing at D    977 contains 222 annotation entities.
ERROR    4010: CALS Class II requires a pointer to a Drawing Units Property at D    977.
```

   *** Entity type: 406

```
ERROR    4042: Illegal form for CALS Class II specified at D    819.
ERROR    4042: Illegal form for CALS Class II specified at D    841.
ERROR    4042: Illegal form for CALS Class II specified at D    851.
ERROR    4042: Illegal form for CALS Class II specified at D    867.
ERROR    4042: Illegal form for CALS Class II specified at D    949.
ERROR    4042: Illegal form for CALS Class II specified at D    959.
ERROR    4042: Messages regarding form numbers suppressed.
```

   *** Entity type: 408   .

```
   Subfigure instance at D    459 references subfigure at D    201.
   Subfigure instance at D    465 references subfigure at D    201.
   Subfigure instance at D    499 references subfigure at D    139.
   Subfigure instance at D    519 references subfigure at D    157.
   Subfigure instance at D    531 references subfigure at D    175.
   Subfigure instance at D    545 references subfigure at D    191.
   Subfigure instance at D    569 references subfigure at D    217.
   Subfigure instance at D    581 references subfigure at D    247.
   Subfigure instance at D    599 references subfigure at D    281.
   Subfigure instance at D    663 references subfigure at D    295.
   Subfigure instance at D    679 references subfigure at D    307.
   Subfigure instance at D    765 references subfigure at D    317.
   Subfigure instance at D    781 references subfigure at D    329.
   Subfigure instance at D    785 references subfigure at D    347.
   Subfigure instance at D    797 references subfigure at D    365.
```

   *** Entity type: 410

```
   Scale of view at D    13 is 1.000000E+000.
Orthographic View entity at D    13 has  4 clipping planes specified.
   XMIN =      1.000     XMAX =      3.000
   YMIN =     10.000     YMAX =     11.500
   ZMIN = Not Set        ZMAX = Not Set
```

   *** Message Summary ***

2007: 1 Mathematical discontinuities.
2016: 12 Invalid entity use flag.
4000: 1 Miscelaneous CALS messages
4008: 1 Missing properties
4019: 11 Entities with illegal form

*** Error Summary ***

  0 fatal errors
  0 severe errors
 13 errors
  1 warnings
  2 cautions
 12 nitpicks
  1 notes

*** End of Analysis of \9208\d001q001 ***

12.1.3 Hard Copy
12.1.3.1 AutoCAD

12.1.3.2 Cadkey

12.1.3.3 IGESView

12.1.3.4 Preview

1.000		SSUB					
.000 / .750							
.000		STACK LEFT					
R.500		STACK CENTER	45.00°				
AB		STACK RIGHT	ø.500				
-C-		FRACTION	LABEL				
A2		DUAL TO P STACK BOTTOM	SIMPLE				
1 .07		NBEDDED FRACTION ACT	DUAL STACK				
		SUP FR SUB BOTTOM	INBEDDED			A 1.000	
CAIS TEST NETWORK MIL-D-28000 CLASS II REFERENCE DRAWING N-ENTITY			SSUPER				

12.2   D002Q001

12.2.1   Parser Log

```
*** IGES DATA FILE PARSING ***
***         AUGUST 1991      ***
***    IGES Data Analysis    ***
***       (708) 449-3430     ***
```

Input file is \9208\d002q001

Checking conformance to CALS Class II

Today is February 13, 1992   10:56 AM

*** Count of Records Per Section in Data File ***

```
       Section .      Records

       Start            33
       Global            3
       Directory       630  (     315 Entities)
       Parameter       405
       Terminate         1
```


*** Start Section From Input File:

```
                                                                    S      1
                                                                    S      2
CONFORMANCE:  This IGES file conforms to the MIL-D-28000 Amendment 1 S      3
              Class II subset (Engineering Drawings).                S      4
                                                                    S      5
CREATED BY:   Kathy Louie                                           S      6
              SDRC                                                  S      7
              2000 Eastman Drive                                    S      8
              Milford, Ohio  45150                                  S      9
              (513) 576-2893                                        S     10
                                                                    S     11
DATE:         December 18, 1991                                    S     12
                                                                    S     13
PART NAME:    LBRACKET                                              S     14
                                                                    S     15
DRAWING NAME: LBRACKET                                              S     16
                                                                    S     17
DESCRIPTION:  This file contains the LBRACKET drawing for the CTN   S     18
              as generated by the I-DEAS Drafting, Level VI software. S   19
                                                                    S     20
```

```
DRAWING SIZE                                                    S      21
 AND NUMBER:  One C-Size                                        S      22
                                                               S      23
PART LEVEL SCHEME:                                             S      24
                                                               S      25
                LEVEL        ENTITY DESCRIPTION      MODE       S      26
                -------------------------------------------    S      27
                defaulted    definition entities     n/a        S      28
                    1        geometric entities       n/a        S      29
                    2        dimension entities       n/a        S      30
                    3        other detailing          n/a        S      31
                                                               S      32
                                                               S      33
```

   *** Global Section From Input File:

```
1H,,1H;,,,24HI-DEAS DRAFTING 5.0 IGES,25HIGES STANDARD VERSION 4.0,32,  G      1
38,8,38,8,,1.0,1,4HINCH,32767,32.767,13H911218.085649,,,11HKathy Louie,,G      2
6,0;                                                                    G      3
```

   *** File and Product Name Information ***

   * File name from sender   = ''
ERROR   3005: CALS Class II does not allow file name to be defaulted.
      File creation Date.Time = '911218.085649'
   * Model change Date.Time   = ''
      Author   = 'Kathy Louie'
   * Department   = ''
ERROR   3004: CALS Class II does not allow department to be defaulted.
   * Product name from sender = ''
ERROR   3013: CALS Class II does not allow product name from sender to be defaulted.
   * Destination product name = ''

   *** Parameter Delimiters ***

      Delimiter = ','
      Terminator = ';'

   *** Originating System Data ***

      System ID   = 'I-DEAS DRAFTING 5.0 IGES'
      Preprocessor version = 'IGES STANDARD VERSION 4.0'
      Specification version = 6 (IGES 4.0)

   *** Precision Levels ***

```
    Integer bits =     32
    Floating point  -  Exponent =     38  Mantissa =     8
    Double precision - Exponent =     38  Mantissa =     8
```

*** Global Model Data ***

```
    Model scale            =  1.0000E+000
    Unit flag              =  1
    Units                  =  'INCH'
    Line weights           =  32767
    Maximum line thickness =  3.276700E+001
    Minimum line thickness =  1.000000E-003
 *  Granularity            =  0.000000E+000
ERROR   3006: CALS Class II does not allow granularity to be defaulted.
CAUTION 1083: Minimum intended resolution is to be absolute.
 *  Maximum coordinate     =  0.000000E+000
ERROR   3008: CALS Class II does not allow maximum coordinate to be defaulted.
CAUTION 1080: Maximum coordinate value in data is to be zero.
```

    Drafting standard applicable to original data is not specified.

```
 **  7 defaulted Global values.
    (*) Indicates a defaulted value.
```

```
*******************************
*** Entity Parsing Messages ***
*******************************
```

```
WARNING 1087: Status fields not one number at D       1.
WARNING 1087: Status fields not one number at D       3.
WARNING 1087: Status fields not one number at D       5.
WARNING 1087: Status fields not one number at D       7.
WARNING 1087: Status fields not one number at D       9.
WARNING 1087: Status fields not one number at D      11.
WARNING 1087: Status fields not one number at D      13.
WARNING 1087: Status fields not one number at D      15.
WARNING 1087: Status fields not one number at D      17.
WARNING 1087: Status fields not one number at D      19.
WARNING 1087: Messages regarding status fields suppressed.
```

```
 **   678 defaulted Parameter data values.
```

*** Message Summary ***

```
1019: 2 Invalid Global parameters.
1020: 315 Status fields not one number.
3001: 5 Illegally defaulted global values.
```

*** Error Summary ***

```
  0 fatal errors
  0 severe errors
  5 errors
315 warnings
  2 cautions
  0 nitpicks
  0 notes
```

*** Completed Parsing of \9208\d002q001 ***

12.2.2 Verify Log

```
            *** IGES DATA FILE ANALYSIS ***
            ***         AUGUST 1991        ***
            ***   IGES Data Analysis   ***
            ***       (708) 449-3430       ***
```

Input file is \9208\d002q001

Checking for conformance to CALS Class II

Today is February 13, 1992   10:56 AM

*** File and Product Name Information ***

```
   File name from sender    = ''
   File creation Date.Time  = '911218.085649'
   Model change Date.Time   = ''
   Author                   = 'Kathy Louie'
   Department               = ''
   Product name from sender = ''
   Destination product name = ''
```

*** Parameter Delimiters ***

```
   Delimiter  = ','
   Terminator = ';!
```

*** Originating System Data ***

```
   System ID             = 'I-DEAS DRAFTING 5.0 IGES'
   Preprocessor version  = 'IGES STANDARD VERSION 4.0'
   Specification version = 6 (IGES 4.0)
```

*** Precision levels ***
```
   Integer bits =    32
   Floating point  - Exponent =    38  Mantissa =    8
   Double precision - Exponent =    38  Mantissa =    8
```

*** Global Model Data ***

```
   Model scale           = 1.0000E+000
   Unit flag             = 1
   Units                 = 'INCH'
   Line weights          = 32767
   Maximum line thickness = 3.276700E+001
   Minimum line thickness = 1.000000E-003
   Granularity           = 0.000000E+000
```

CAUTION 2319: Minimum intended resolution is to be absolute. Value defaulted to 1.00E-00
   Maximum coordinate   = 0.000000E+000
CAUTION 2316: Maximum coordinate value in data is to be zero.

   Drafting standard applicable to original data is not specified.

*** Status Flag Summary ***

Blank status:	Visible	294
	Blanked	21
Independence:	Independent	153
	Physically Subordinate	153
	Logically Subordinate	9
	Totally Subordinate	0
Entity use:	Geometry	152
	Annotation	71
	Definition	92
	Other	0
	Logical/Positional	0
	2D parametric	0
	Not Specified	0
Hierarchy:	Structure DE applies	315
	Subordinate DE applies	0
	Hierarchy property applies	0
	Not Specified	0

*** Entity Occurrence Counts ***

Entity	Form	Level	Count	Type
100	0	1	12	Circular arc
104	0	1	12	Conic arc - general form
106	40	0	6	Witness line
108	0	0	16	Plane, Unbounded
110	0	1	158	Line
110	0	3	27	
112	0	3	1	Parametric spline curve
124	0	0	23	Transformation matrix
206	0	2	1	Diameter dimension
212	0	0	5	General note
212	0	3	5	
214	2	0	8	Leader arrow - Triangle
216	0	2	3	Linear dimension
222	0	2	1	Radius dimension

304	2	0	8	Line font definition - repeating pattern
308	0	1	14	Subfigure definition
404	0	0	1	Drawing
406	15	0	1	Property - Name
406	16	0	1	Property - Drawing size
+ 406	5004	0	5	Implementor entity instance
408	0	1	3	Single subfigure instance
410	0	0	4	View - Orthographic parallel

+ Indicates use of a Implementor defined form or entity.

*** Entity Count by Level ***

Level	Count
0	78
1	199
2	5
3	33

*** Labeling Information ***

0% of the entities are labeled.

Unlabeled   315

*** Line Fonts Used in Data ***

100	102	104	106	108	110	112	114	
-	-	-	-	16	-	-	-	Undefined
12	-	12	6	-	171	1	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	2	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	12	-	-	User defined

116	118	120	122	124	125	126	128	
-	-	-	-	23	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	-	-	-	User defined

130	132	134	136	138	140	142	144

```
   -     -     -     -     -     -     -      -    Undefined
   -     -     -     -     -     -     -      -    Solid
   -     -     -     -     -     -     -      -    Dashed
   -     -     -     -     -     -     -      -    Phantom
   -     -     -     -     -     -     -      -    Center-line
   -     -     -     -     -     -     -      -    Dotted
   -     -     -     -     -     -     -      -    User defined
```

*** Line Widths Used in Data ***

Weight	Count	Width
Defaulted	105	(0.0010)
13	208	(0.0130)
100	2	(0.1000)

*** Colors Used in Data ***

Defaulted	92
Red	204
Green	1
Yellow	5
Magenta	13

```
******************************
******  ENTITY ANALYSIS  ******
******************************
```

*** Entity type: 100

*** Entity type: 104

*** Entity type: 106

```
NITPICK 2076: Entity use not Annotation at D    573.
NITPICK 2076: Entity use not Annotation at D    575.
NITPICK 2076: Entity use not Annotation at D    587.
NITPICK 2076: Entity use not Annotation at D    589.
NITPICK 2076: Entity use not Annotation at D    601.
NITPICK 2076: Entity use not Annotation at D    603.
```

*** Entity type: 108

*** Entity type: 110

   --   185 lines averaging 1.588254E+000 units --

*** Entity type: 112

*** Entity type: 124

23 transformation matrices, 12 non-zero translations.
NOTE   2341: 12 matrices contain translation information.

*** Entity type: 206

*** Entity type: 212

        10 text strings in data file.
        Average text aspect ratio in file is 1.0000000.
        Minimum text aspect ratio in file is 1.0000000.
        Maximum text aspect ratio in file is 1.0000000.

        FONTS USED IN FILE

        FONT   COUNT   NAME

           1   9   Default ASCII Style
        1002   1   Symbol Font 2

*** Entity type: 214

        Average arrow aspect ratio in file is 3.0000000.
        Minimum arrow aspect ratio in file is 3.0000000.
        Maximum arrow aspect ratio in file is 3.0000000.

*** Entity type: 216

*** Entity type: 222

*** Entity type: 304

Default line font substitute at D   57 is Solid.
Default line font substitute at D   59 is Solid.
Default line font substitute at D   61 is Solid.
Default line font substitute at D   63 is Solid.
Default line font substitute at D   65 is Solid.
Default line font substitute at D   67 is Solid.

Default line font substitute at D   69 is Solid.
Default line font substitute at D   71 is Solid.

 *** Entity type: 308

  Subfigure name at D   77: 'WEDGE'.
    Number of included entities = 2.
  Subfigure name at D   81: 'STANDARD'.
    Number of included entities = 1.
  Subfigure name at D   97: 'SOLID TRIANGLE'.
    Number of included entities = 7.
  Subfigure name at D   101: 'NONE'.
    Number of included entities = 1.
  Subfigure name at D   105: 'DOT'.
    Number of included entities = 1.
  Subfigure name at D   113: 'SOLID DOT'.
    Number of included entities = 3.
  Subfigure name at D   123: 'BOX'.
    Number of included entities = 4.
  Subfigure name at D   149: 'SOLID BOX'.
    Number of included entities = 12.
  Subfigure name at D   153: 'SLASH'.
    Number of included entities = 1.
  Subfigure name at D   159: 'INTEGRAL'.
    Number of included entities = 2.
  Subfigure name at D   167: 'EMPTY TRIANGLE'.
    Number of included entities = 3.
  Subfigure name at D   205: 'SUBFIG'.
    Number of included entities = 14.
  Subfigure name at D   215: 'SLOT'.
    Number of included entities = 4.
  Subfigure name at D   233: 'XH14'.
    Number of included entities = 8.

 *** Entity type: 404

Drawing at D   629 contains 4 views.
Drawing at D   629 contains 34 annotation entities.
ERROR   4010: CALS Class II requires a pointer to a Drawing Units Property at D   629.

 *** Entity type: 406

ERROR   4042: Illegal form for CALS Class II specified at D   577.
ERROR   4042: Illegal form for CALS Class II specified at D   591.
ERROR   4042: Illegal form for CALS Class II specified at D   605.
ERROR   4042: Illegal form for CALS Class II specified at D   613.
ERROR   4042: Illegal form for CALS Class II specified at D   621.

 *** Entity type: 408

Subfigure instance at D   359 references subfigure at D   233.
Subfigure instance at D   481 references subfigure at D   205.
Subfigure instance at D   485 references subfigure at D   215.

*** Entity type: 410

Scale of view at D   13 is 1.000000E+000.
Orthographic View entity at D   13 has 4 clipping planes specified.
   XMIN =   -2.947   XMAX =   8.133
   YMIN =   -2.947   YMAX =   4.918
   ZMIN = Not Set   ZMAX = Not Set

Scale of view at D   27 is 1.000000E+000.
Orthographic View entity at D   27 has 4 clipping planes specified.
   XMIN =   -2.947   XMAX =   8.133
   YMIN =   -2.082   YMAX =   6.872
   ZMIN = Not Set   ZMAX = Not Set

Scale of view at D   41 is 1.000000E+000.
Orthographic View entity at D   41 has 4 clipping planes specified.
   XMIN =   -0.867   XMAX =   9.894
   YMIN =   -2.947   YMAX =   4.918
   ZMIN = Not Set   ZMAX = Not Set

Scale of view at D   55 is 1.000000E+000.
Orthographic View entity at D   55 has 4 clipping planes specified.
   XMIN =   -0.867   XMAX =   9.894
   YMIN =   -2.082   YMAX =   6.872
   ZMIN = Not Set   ZMAX = Not Set

*** Message Summary ***

2016: 6 Invalid entity use flag.
4008: 1 Missing properties
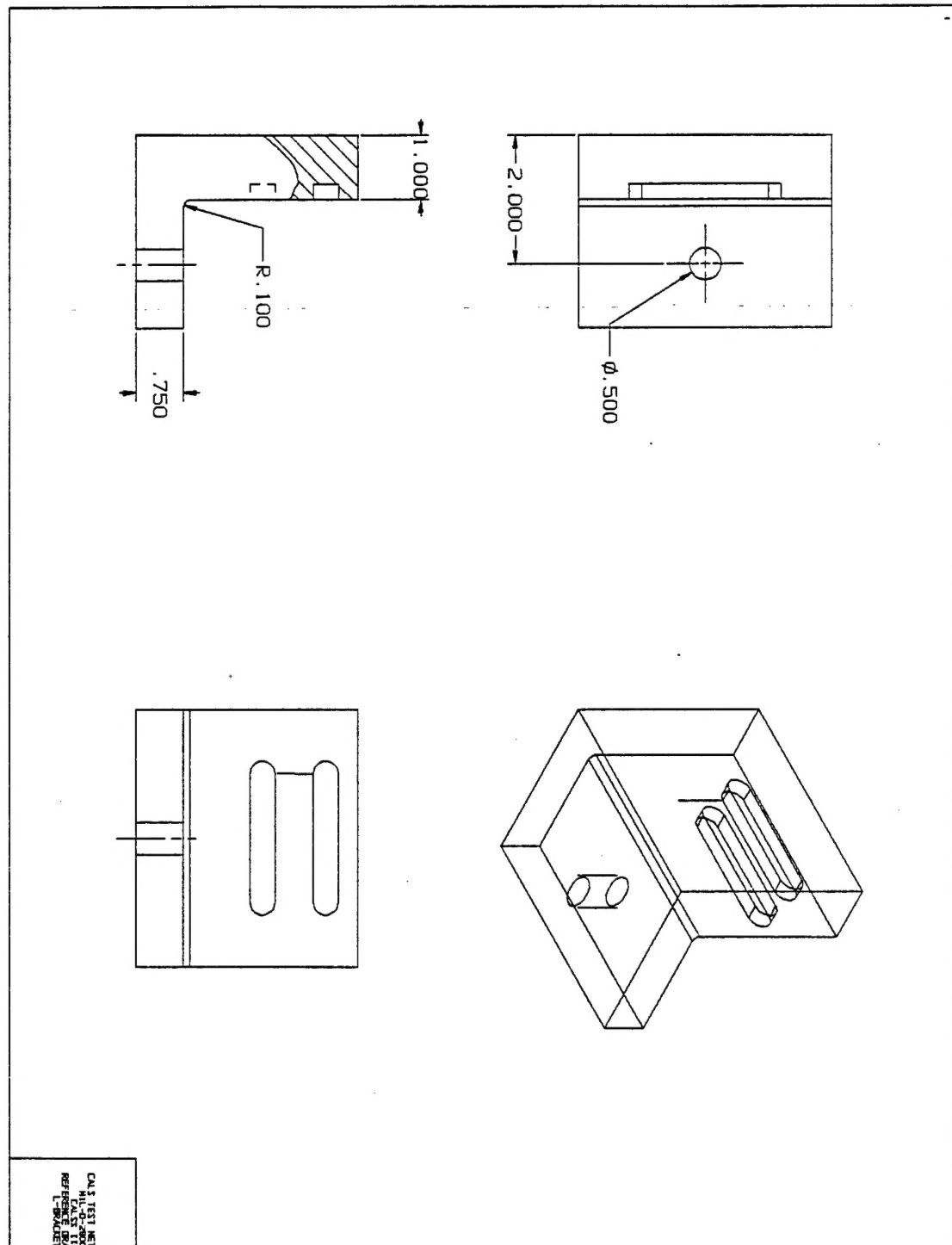4019: 5 Entities with illegal form

*** Error Summary ***

   0 fatal errors
   0 severe errors
   6 errors
   0 warnings
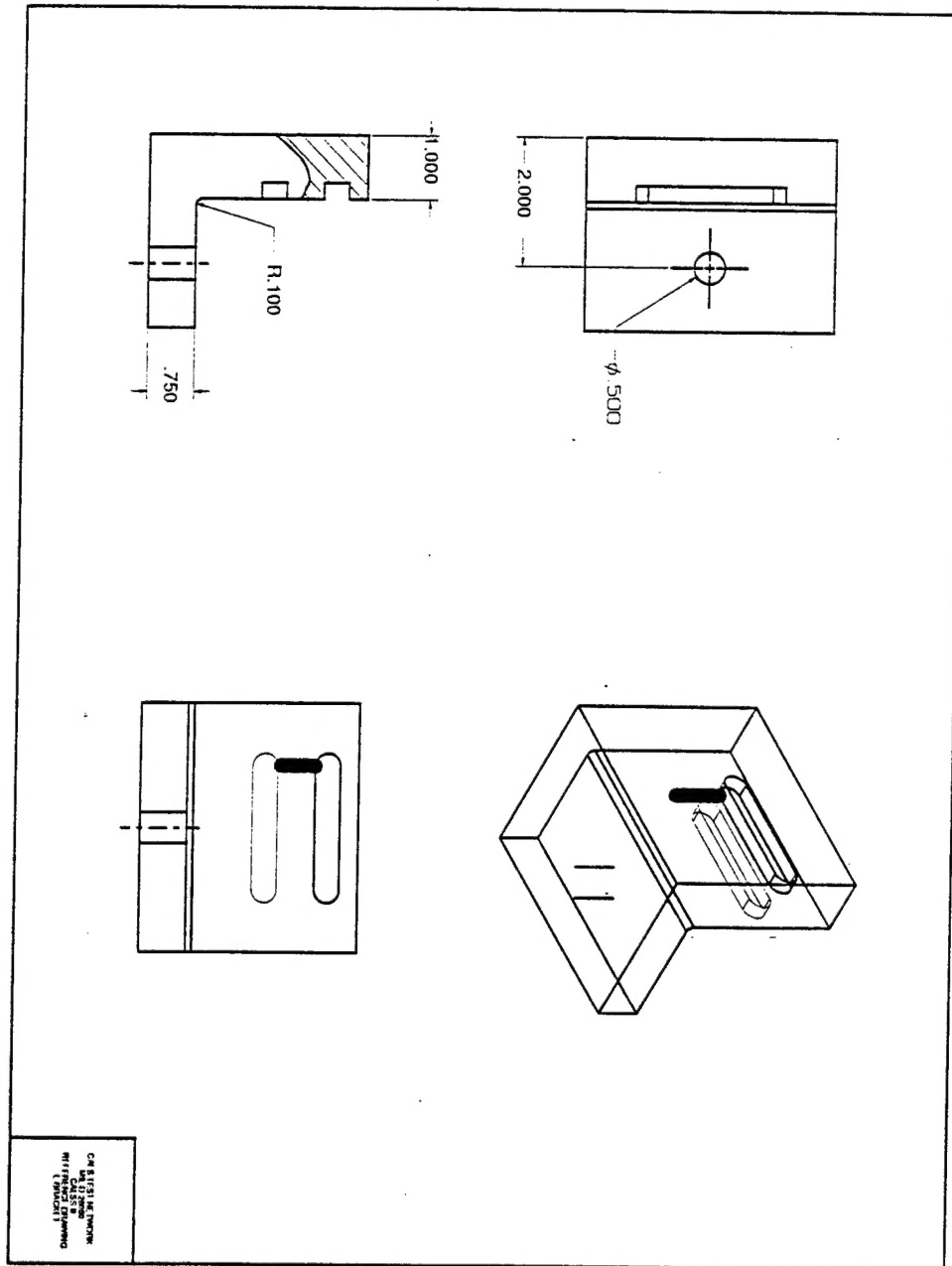   2 cautions
   6 nitpicks
   1 notes

*** End of Analysis of \9208\d002q001 ***

12.2.3 Hard Copy
12.2.3.1 AutoCAD

12.2.3.2 Cadkey

12.2.3.3 IGESView

12.2.3.4 Preview